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Next Generation Tabletop Microscope TM3000 Offers Smaller Size and Ease-of-Use with Improved Functions

Hitachi High-Technologies Corporation (TOKYO: 8036) today announced the development of the Tabletop Microscope TM3000. Shipments of the compact, affordably priced, and exceptionally user-friendly TM3000 are scheduled to start on April 1, 2010.

Developed by Hitachi High-Technologies specifically as a cutting-edge yet highly accessible microscope, the Microscope represents a new type of tabletop microscope. Hitachi High-Technologies has long been involved in the manufacture and sale of electron microscopes used across a full spectrum of industries, most notably in the fields of nano and biotechnology. The predecessor to the TM3000, the TM-1000, has shipped over 1,000 units since its launch in April 2005. Today the TM-1000 is in use at research institutes, companies, schools and science museums worldwide, demonstrating its utility in educational spheres as well as industrial applications.

As the successor to the TM-1000, the TM3000 offers a dramatic improvement in all the features of the earlier device, including its compact size, ease of operation, and magnification. Through more attention to compact design, the surface area required for the microscope has been reduced by roughly 20%. The operation of the TM3000 has also been simplified thanks to auto start, auto focus and other automated onboard functions. The most groundbreaking achievement of the new device, however, is that magnification has been expanded to 30,000X, enabling even higher-magnification observation. Moreover, the TM3000 can be easily controlled and samples viewed through a connected PC, making it simple for even first-time electron microscope users to operate.

Hitachi High-Technologies is aiming for initial annual shipments of 500 units of the TM3000 tabletop microscope, and will seek to further expand product sales worldwide. Going forward, the TM3000 is expected to play an active role in areas ranging from R&D to quality assurance in a host of fields, including materials, semiconductors, food products, and biotechnology by simplifying and facilitating observation of the microstructures of material surfaces. Together with greater utilization of the device at elementary schools, science museums and other science education sites, hopes are high that the TM3000 will help counter the recent trend of students away from science programs.

Features of the Tabletop Microscope TM3000

1. Energy-saving design without continuous power on. Startup time around 3 minutes
2. No coating required due to observation under variable pressure vacuum
3. Change magnification from 15X to 30,000X quickly and easily
4. Three possible settings for observation condition: surface, normal, and high-brightness/contrast
5. Fully automatic functions such as auto start, auto focus, and auto brightness/contrast
6. Extremely easy to use thanks to image shift function, navigation buttons and other features
7. Stereoscopic image observation with high depth of focus

[Dimensions and weight]

Items	Description (Width x Depth x Height, Weight)
Main unit	330 x 606 x 565mm, 63.0 kg
Diaphragm pump	145 x 256 x 217mm, 4.5 kg

[Specifications]

Items	Description
Magnification	15 to 30,000x (digital zoom: 2x, 4x)
Observation condition	5kV/15kV/Analysis
Observation mode	Standard mode/charge-up reduction mode
Sample stage traverse	X: ± 17.5 mm, Y: ± 17.5 mm
Maximum sample size	70mm in diameter, 50mm height
Signal detection system	High-sensitive semiconductor BSE detector
Auto image adjustment function	Auto start, auto focus, auto brightness/contrast
Evacuation system (vacuum pump)	Turbomolecular pump: 30L/s x 1 unit, Diaphragm pump: 1m ³ /h x 1 unit
Operation help function	Image shift



The Tabletop Microscope TM3000

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